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BLACKBIRDS AND THE RICE CROP ON THE GULF COAST

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Introduction

Blackbirds have been a source of trouble to rice growers of the Gulf coast of Louisiana and Texas ever since that grain was introduced into the southern prairie region. Damage is inflicted in spring, when the sprouting grain attracts the birds; in midsummer, when the crop is in the "milk" or "dough" stage; and at harvest, when the shocked grain may be attacked not only by the resident red-winged blackbirds, the principal offenders, but also by the larger boat-tailed grackles, or "jackdaws", and, if the crop is late, by migratory blackbirds from northern States.

Area Affected

Some years ago a thorough study was made of this problem, particularly to learn what measures could be adopted to lessen the annual losses. The survey revealed interesting facts. In the first place, the area of severe blackbird damage, in which noticeable losses are experienced almost every year, is a narrow one, being the southern edge of the rice district that borders on the extensive marshes lying along the Gulf coast. In some instances this zone of severe damage may comprise a single tier of fields adjacent to the marsh. Three or four miles from the borderline severe damage is of irregular occurrence, depending largely on the presence of trees or sloughs that attract the birds. In the central and northern parts of the rice belt, where the land has been longer under cultivation, and where most marshy areas attractive to blackbirds have been drained, noticeable damage to the rice crop is seldom experienced. Control measures thus are only locally required.

Varied Extent of Damage

Not only is the zone of severe blackbird damage narrow, but from year to year there may be great fluctuations in its extent and severity. Rains during the sprouting season tend to increase the damage by making the ground soft and easily probed by birds. A harvest delayed by inclement weather exposes the shocked crop to attacks not only of the resident blackbirds but also of migrants that arrive from the north in October and November. Such climatic conditions as the prolonged drought that occurred during the latter part of 1924 and the early part of 1925 also affect the activities of the birds, causing them to avoid vast areas of burned-over marsh that normally support a large breeding population.

In 1924, tests made by a rice-growing company in Louisiana indicated a crop loss as great as 22 percent on certain fields close to the virgin marsh. In the following year similar tests, many of which were carried out in the same fields, disclosed no appreciable damage. For the entire rice-growing area of Louisiana, including the zone of severe damage as well as the great acreage in which injury is infrequent, the average annual loss to the rice crop caused by blackbirds probably does not exceed 1 percent of the yield. Although such an estimate might appear to minimize the importance of the problem, it must not be overlooked that the great bulk of the damage occurs in a limited area and that in this area rice growers suffer severe losses. It was to remedy conditions in such sections that experiments in blackbird control were conducted.

Wandering Flocks

Blackbirds are nomads. Daily they make trips to and from their feeding grounds in the rice fields and their roosts in the marshes. Sometimes the flocks number tens of thousands. With widely available food the birds may be in a certain locality one day and miles away the next. At times, however, they persist in levying toll on particular fields and may be found day after day in the same section. Suddenly they may leave and, like a tornado, strike at some distant point. Unlike field mice, ground squirrels, or other rodent pests that are to be found not far from their runways or burrows, the presence of blackbird flocks cannot be predicted with certainty. This is especially true during the period of ripening grain and at harvest, when there is food to be had everywhere. Even during the planting season, when the natural food supply is at its lowest ebb and the newly seeded rice fields are the principal attraction to the birds, their uncertain wanderings prevent the carrying out of consistently successful control measures.

Legal Status of Blackbirds

On June 20, 1936, the President approved an act, 49 Stat. 1555, amending the Migratory Bird Treaty Act of July 3, 1918, to afford protection to additional migratory birds by extending its provisions to the treaty between the United States and the United Mexican States, which was signed on February 7, 1936, and ratified on March 15, 1937. Among the birds thus given protection are those of the family Icteridae, including orioles, meadowlarks, and blackbirds.

As blackbirds at times become seriously injurious to agricultural crops, however, the Secretary of Agriculture, by virtue of authority conferred upon him by the afore-mentioned legislation, issued, under date of June 26, 1937, an order permitting the shooting of certain species when found committing or about to commit such depredations. Among the species of blackbirds mentioned in the order is the redwing, which is the chief offender in the rice fields along the Gulf coast. Under the provisions of the order, the owner or custodian of any agricultural crop may kill these birds by shooting only, "but not by means of any gun to which a silencer or any other like device has been attached or otherwise affixed, nor from any blind, sink, pit, or any other device or means of concealment, whether natural or artificial." The birds killed pursuant to this order may not be "shipped or transported or sold or offered for sale except that they may be transported to such place within the vicinity as may be necessary to bury or otherwise destroy their carcasses." Any person killing birds under the provisions of this order must submit, on or before January 1 of each year, to the Chief, Bureau of Biological Survey, U. S. Department of Agriculture, Washington, D. C., a report of his operations.

Control by Shooting

Unless special authorization for other means of control is granted by the Secretary of Agriculture, shooting is the only aggressive method available to the rice growers in the zone of severe damage. By the more philosophical, the expense of this means of control is considered an annual item necessary for successful production of the crop and it is provided for with as much certainty as any other element of crop production. The large rice-growing companies advance ammunition to their tenant farmers just as they do seed and fertilizer. Cheap black-powder shells and 12-gage, double-barreled or repeating shotguns are used almost exclusively in this patrol work.

An idea of the efficiency of shooting as a means of crop protection may be gained from the experience of a farmer living 4 miles southeast of Gueydan, La. In one year he shot 4,500 shells costing \$135. This expense, with the labor involved in patrolling, was necessary to protect 230 acres that yielded 2,600 sacks of rice. Judging from previous experience, this farmer estimated that his crop would not have exceeded 1,000 sacks had the fields not been patrolled. This indicates an expected loss of 1,600 sacks. Assuming that his estimate was approximately correct, it would follow that his expenditure of \$135 for ammunition, \$35 for a gun that was burned out, and an unstated amount for labor--possibly a total of \$250--resulted in the saving, at prices current at the time, of rice worth more than \$7,800. Stated differently, the cost of protection, which was fairly adequate, represented an outlay equal to about 2 percent of the value of the entire crop.

In large fields distant from human habitations and livestock a rifle may be used in place of the shotgun with increased economy and efficiency. This procedure, by no means new to rice growers in California, has been neglected in the rice fields of the Gulf coast.

For safety and convenience in reaching all parts of the field, a shooting tower 15 to 20 feet high, built of scantlings, should be erected near the

center of the area to be protected. From this vantage the bird minder can see where he is shooting and direct his shots downward into the water or soft mud of the rice field where they will do no further harm. By using 22-caliber, long-rifle cartridges in place of the shotgun ammunition, this element of cost can be reduced to about one-fifth. The longer range of the rifle enables a person to patrol a larger area, and thus the cost of labor is reduced to about one-fourth of that ordinarily expended when the shotgun is used. Furthermore, blackbirds respond more readily to the impact of a rifle ball than to bird shot and are more inclined to leave the fields after a shot or two. In actual practice flocks of blackbirds numbering into the hundreds have been driven from stands of rice at distances of 800 yards. By this procedure, bird minding is changed from an exhausting, nerve-racking, and often hopeless occupation to one that under some conditions might be considered leisurely and comfortable. It must be emphasized, however, that rifle fire can be resorted to safely only in areas of large fields away from human habitations and livestock grazing.

Early Prolific Rice Escapes Damage

Observations of the movements and habits of the redwings of southern Louisiana disclosed that no flocks large enough to inflict serious damage appear before the first of September. At that time of year all the Early Prolific rice has passed beyond the milk and dough stages and, in fact, most of it has been shocked. In some years even the threshing and hauling of this strain of rice to the mills is well under way early in August. It is evident, therefore, that this part of the rice crop or any other equally early strain will escape serious blackbird damage when in the milk and dough stages. Because of this it would seem, other things being equal, to be an advantage to sow only early-maturing rice in those fields that have been found particularly susceptible to blackbird attack. Offsetting somewhat the advantage thus gained, however, the early-maturing strains that ripen before the large flocks of redwings have congregated also have an early planting period that invites damage at sowing and sprouting time.

Early Seeding of Blue Rose not Advisable

Despite advice to the contrary based on experimental work at the Crowley (La.) Rice Experiment Station of the U. S. Department of Agriculture and State Agricultural Experiment Station, many planters of the Gulf coast section begin sowing even the late-maturing Blue Rose variety so early that not only do low temperatures and cold rains frequently cause the seed to rot, but the early sprouts are also exposed to the attacks of the droves of blackbirds not yet scattered for the nesting season. Extensive experiments have demonstrated that little is gained culturally by seeding the late-maturing Blue Rose as early as February or March, and to do so invites early-season damage by blackbirds. The rice grower in the zone of blackbird damage confronted with possible serious injury to sprouting rice sown in February and March, or even early in April, and to the crop in the milk and dough stages late in August and early in September cannot escape both possibilities by crop handling of varieties that have a growing period of about 140 days. He can, however, avoid much of this trouble by seeding his main crop of Blue Rose after the middle of April, and at the same time he will be at no greater disadvantage at harvest time.